Writing Equations for Formulas

Math Content

Students will write, compare, and solve problems using formulas that describe patterns with multiple variables.

1. Rewrite each formula without parentheses.

a.
$$Length = 7(L + S)$$

b.
$$Length = 2(U + 5D)$$

c.
$$Height = 3(4S + 3T)$$

d.
$$Height = 5(10S + 2L)$$

2. Rewrite each formula with parentheses.

a.
$$Length = 4L + 12S$$

b.
$$Length = 14U + 21D$$

c.
$$Height = 20S + 15T$$

d.
$$Height = 51S + 17L$$

3. Which formula describes a different pattern from the rest?

A.
$$Length = 12L + 8S$$

B.
$$Length = 2(6L + 4S)$$

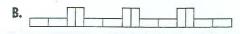
c. Length =
$$3(4L + 3S)$$

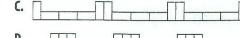
D.
$$Length = 4(3L + 2S)$$

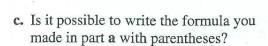
Writing Equations for Formulas

- 6. Sam places bricks in a row so that they sometimes lay sideways (on their long side) and at other times stand upright (on their short side). He uses a formula to predict the length of a row of the resulting pattern. In his formula, S is the length of the short side of a brick and L is the length of the long side.
 - a. Write a formula for the length of a row that uses six standing bricks and nine laying bricks.
 - **b.** Which row of bricks matches the description in part **a?**









Explain.

d. What is true of a row of bricks with a formula that cannot be written with parentheses?

e. Sam uses bricks that have a long side that is 20 centimeters and a short side that is 6 centimeters. What will be the length of the row described in part a?